

**Remarks**

**I. INTRODUCTION**

Claims 1-5, 9-17, 19, 31-52, 62-63, and 74-96 are pending in this application. Claims 6-8, 18, 20-30, 53-61, and 64-73 were previously withdrawn from consideration without prejudice by Election filed on May 19, 2007. No claims are amended, added, or canceled. Reconsideration in view of the following remarks is respectfully requested.

**II. ALLOWABLE SUBJECT MATTER**

The Office Action indicates that claims 17, 19, 43-46, and 48-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and intervening claims. Applicant sincerely appreciates this indication of allowable subject matter.

**III. CLAIM REJECTIONS AND OBJECTIONS**

Applicant expresses sincere thanks to Examiner for withdrawing the prior rejections of claims 1-5, 9-16, 31-35, 50-52, 62-63, 74, and 81-95 under 35 U.S.C. § 102(b), claim 75 under 35 U.S.C. § 103(a), and claims 36-42, 47, and 76-80 under 35 U.S.C. § 103(a).

The following rejections are new grounds of rejection. Claims 1-5, 9-16, 31-35, 50-52, 62-63, 74, and 81-96 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Allen et al.* (U.S. 5,749,372) in view of *Levy* (U.S. 5,742,228). Claim 75 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Allen et al.* in view of *Levy* as applied to claim 63 and in view of *Muller* (U.S. 4,865,610). Claims 36-42, 47, and 76-80 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Allen et al.* in view of *Levy* and in view of *Elwell* (U.S. 5,394,035). Finally, claims 17, 19, 43-46, and 48-49 stand rejected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant respectfully traverses these rejections.

The present invention relates to rate-of-change switches for controllable devices. In particular, the present invention provides for performing a switching function in response to

differentiating an output signal and determining a rate of change of the output signal, where the output signal is produced in response to a user input. “More particularly, the present invention provides rate-of-change control devices that actuate in response to adjustable rate-of-change thresholds, timed-opportunity switches that can be actuated by one or more appropriately-timed inputs, and multiplexers, or ECUs, that can be used by physically-handicapped persons to control such things as wheelchair and hospital bed positing actuators, lighting, entertainment, communication, computer and productivity devices.” Para. [0014]. That is, the present invention provides for controlling devices such as power wheelchairs by handicapped people through the manipulation of a tilt-sensor.

As an initial matter, Applicant respectfully objects to the Office Action’s impermissible use of hindsight to combine the non-analogous *Levy* reference with the *Allen et al.* reference to arrive at an inoperable combination. This improper rejection fails to establish a *prima facie* case of obviousness as required by MPEP § 2143.

As has been acknowledged by the Court of Appeals for the Federal Circuit, the U.S. Patent and Trademark Office has the burden to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a) by showing some objective teaching in the prior art or generally available knowledge of one of ordinary skill in the art that would lead that individual to the claimed invention. *See In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Section 2143 of the MPEP discusses the requirements of a *prima facie* case for obviousness.

In the present case, there is no suggestion or motivation to combine the references or make the modifications proposed in the Office Action. Any such motivation or suggestion was arrived at only through the use of impermissible hindsight. And even if such a suggestion or motivation to combine the references did exist, which Applicant explicitly maintains that it does not, the combination would nonetheless render *Allen et al.* inoperable for its intended purpose. For at least these reasons, as discussed more thoroughly below, Applicant respectfully submits that the Office Action fails to establish a *prima facie* case of obviousness and requests that the rejection of claims 1-5, 9-17, 19, 31-52, 62-63, and 74-96 be withdrawn.

**1. The Office Action used impermissible hindsight.**

Applicant respectfully submits that the combination of *Allen et al.* and *Levy* is improper because the Office Action impermissibly relies on hindsight based on information gleaned solely from Applicant's specification. MPEP § 2142 states that "impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of ***the facts gleaned from the prior art.***" (Emphasis added). In *KSR Int'l Co. v. Teleflex, Inc.*, the Supreme Court warned against the dangers of hindsight bias: "A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning." 550 U.S. 398, 421 (2007). "Any judgment on obviousness is in a sense necessary in a reconstruction based on hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill in the art at the time of the claimed invention was made and ***does not include knowledge gleaned only from applicant's disclosure***, such a reconstruction is proper." MPEP § 2145(X)(A) (quoting *In re McLaughlin*, 443 F.2d 1392, 1395 (C.C.P.A. 1971)) (emphasis added). In sum, it is well established in the law that hindsight to the Applicant's own disclosure is *per se* improper. See *Crown Operations Int'l, Ltd. v. Solutia, Inc.*, 289 F.3d 1367 (Fed. Cir. 2002) (stating that a determination of obviousness cannot be based on a hindsight combination of components selectively culled from the prior art to fit the parameters of the invention).

The pending Office Action on page 4 attempts to rationalize the combination of *Allen et al.* and *Levy* as follows:

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize the need for a processor to determine[] the rate of increase in tilt angle using the lateral level sensor taught by *Levy* in the method for monitoring activity and providing feedback to a user concerning activity level performance of *Allen et al.* because determining the rate of increase in tilt angle would provide accurate feedback on their current level of activity based at least in part on the determined rate-of-change of the lateral level sensor.

Given the lack of a suggestion or motivation contained in the prior art for the proposed combination, and based on this cited passage from the Office Action, it appears that the only suggestion or motivation to combine *Allen et al.* and *Levy* comes from Applicant's own disclosure. From this passage, Applicant must assume that the Office Action relies exclusively

on Applicant's disclosure for motivation to combine *Levy* with *Allen et al.* as the Office Action offers no other support or rationale for such a combination. More particularly, the Office Action, after observing Applicant's disclosure, merely takes a portion of *Levy* (the determination of a rate-of-change) and incorporates it into *Allen et al.* to arrive at Applicant's invention. No teaching or suggestion in either *Allen et al.* or *Levy* implies combining the references as proposed by the Office Action.

Further, the Office Action offers no support for its conclusory assertion that "it would have been obvious to a person of ordinary skill in the art" to combine the two references. This approach results in the precise hindsight bias the Supreme Court warned against in *KSR*. In fact, it would **not** be obvious to one of ordinary skill in the art to combine two radically different references (*Allen et al.* and *Levy*) to arrive at the present invention. More specifically, Applicant fails to see how it would be obvious to one of ordinary skill in the art to combine the activity monitoring device of *Allen et al.* with the system of preventing a tipper truck from overturning of *Levy* to arrive at Applicant's rate-of-change devices for allowing a user to control a device. Without Applicant's disclosure, one of ordinary skill in the art would have no reason or motivation to combine *Allen et al.* with *Levy*, nor does the Office Action prove such a rationale. That it would be obvious to combine a determined rate-of-change of tilt as in *Levy* into an activity monitor as in *Allen et al.* is illogical and unsupported by the record. Applicant must therefore assume that the Office Action merely proposed the *Allen et al.* and *Levy* combination using hindsight solely based on **knowledge gleaned only from Applicant's disclosure**, as prohibited by MPEP § 2145(X)(A) and *In re McLaughlin*.

For at least this reason, Applicant respectfully submits that, because the Office Action relied on impermissible hindsight to combine *Allen et al.* with *Levy*, Applicant's invention is not obvious.

## **2. *Levy* is non-analogous art.**

Applicant respectfully objects to the application of *Levy* against claims 1-5, 9-17, 19, 31-52, 62-63, and 74-96 as *Levy* is non-analogous art. When evaluating references with regard to a

patent claim, references which are non-analogous art may not combine to invalidate the claim under 35 U.S.C. § 103(a). *In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A. 1979). *See In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992); MPEP § 2141.01(a). To determine whether art is analogous, it must first be determined “if the reference is within the field of the inventor’s endeavor.” *In re Wood*, 599 F.2d at 1036. *See In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1994). If not, it must then be determined “whether the reference is reasonably pertinent to the particular problem with which the inventor was involved.” *In re Wood*, 599 F.2d at 1036. “A reference is reasonably pertinent if . . . it is one which . . . logically would have commended itself to an inventor’s attention in considering his problem.” *In re Clay*, 966 F.2d at 658. Failing these requirements, the art is non-analogous, thereby prohibiting its use in an obviousness rejection under § 103(a).

The pending Office Action erroneously applies *Levy*, as allegedly analogous art, to reject claims 1-5, 9-17, 19, 31-52, 62-63, and 74-96 as obvious under § 103(a). The Office Action summarily, but incorrectly, states that *Levy* is “in the same field of endeavor for controlling apparatus.” However, *Levy* clearly does not qualify as analogous art. Generally, *Levy* relates to a system for preventing a tipper truck (*i.e.*, a dump truck) from overturning. More specifically, *Levy* provides: “[a] system for preventing the overturning of the bin of a tipper truck during the raising of the bin for purposes of unloading includes a lateral level sensor to sense the lateral orientation of the tipper truck, and a longitudinal level sensor for sensing the longitudinal inclination of the bin.” Abst.

First, the *Levy* reference is not within the field of Lautzenhiser’s endeavor as required by *In re Wood* and *In re Clay*. That is, as stated above, the present inventor is concerned with rate-of-change switches, which may be attached to or manipulated by a body member of a user, thereby allowing a user to control devices such as power wheel chairs, hospital beds, and computer and productivity devices. Para. [0014]. The present invention allows a user to control a device by manipulating a tilt-sensitive transducer which may be attached to the user. In stark contrast, *Levy* does not relate to a user controlling power wheel chairs or computing devices, or a user controlling any other devices for that matter. The pending Office Action incorrectly alleges that the same field of endeavor is “devices for controlling apparatus.” Office Action, p. 4. However, the Office Action unreasonably broadens the field of endeavor of *Levy*. In particular,

*Levy*'s field of endeavor, based upon its primary U.S. Class categorization, relates to "subject matter in which the [vehicle] alarm is sensitive to vibrations or other motions of a vehicle caused by an intruder's actions." U.S. Cl. 340/429. In contrast, the field of endeavor of the present invention relates to "subject matter which maintains an output at a desired level through the use of means which responds to deviation in the output level and produces a change in the output which is opposite to the deviation." U.S. Cl. 323/234. A plain reading of these classifications alone is sufficient to establish that *Levy* is not within the field of the pending application.

Moreover, the nature and practice of the present invention, when viewed against *Levy*, illustrates the vast differences between the inventions and their respective fields of endeavor. The system of *Levy* merely prevents the tipping over of a tipper truck and is not responsive to user manipulation or operation whereas the present invention of Lautzenhiser allows a user to control various functions of a controllable apparatus, such as a power wheel chair (*e.g.*, powering up the wheel chair, driving and turning the wheel chair, etc.). Quite clearly, the tipper truck system of *Levy* is not within the field of endeavor of an inventor concerning himself with controlling handicap-assisting devices. As *Levy* wholly falls outside the field of Lautzenhiser's endeavor, *Levy* fails the first prong of the *In re Wood* and *In re Clay* test. For at least this reason, Applicant submits that *Levy* is non-analogous art.

Under the second prong of the *In re Wood* and *In re Clay* tests for determining whether art is analogous, the system of *Levy* is not reasonably pertinent to the particular problem with which Lautzenhiser was involved. As stated in *In re Clay*, a reference is pertinent if it "logically would have commended itself to an inventor's attention in considering his problem." 966 F.2d at 658. It is unreasonable to conclude that the tipper truck system of *Levy* would logically commend itself to Lautzenhiser's attention in considering his problem of "providing for the needs of handicapped persons" to operate devices. Para. [0001]. Namely, Lautzenhiser was concerned with solving the problem of "not only providing for the needs of handicapped persons, but also of utilizing them as productive members of society, rather than keeping them partially or wholly dependent upon others." Para. [0001]. That is, although not limited to uses for handicapped persons, Lautzenhiser was concerned with providing for the safety, comfort, productivity, and entertainment needs of handicapped persons by providing rate-of-change control devices that actuate in response to input from a user and result in the control of a device.

Paras. [0012] and [0015]. Contrastingly, *Levy* relates to preventing a tipper truck from overturning, not to controlling a device by a user. Clearly, *Levy* fails to relate to the problem which Lautzenhiser was involved, and it logically would not have commended itself to Lautzenhiser's attention.

Because *Levy* is not within the field of Lautzenhiser's endeavor and because *Levy* is not reasonably pertinent to the particular problem with which Lautzenhiser was involved, *Levy* is non-analogous art and cannot be used to reject the pending claims under 35 U.S.C. § 103(a). Applicant respectfully requests that the rejection be withdrawn.

### **3. The combination of *Allen et al.* and *Levy* is inoperable.**

The combination and modification suggested in the Office Action (*i.e.*, incorporating the tilt-sensor and determining rate-of-change as in *Levy* into the activity monitor of *Allen et al.*) would render the core functionality of the *Allen et al.* system inoperable. Applicant respectfully notes that if a reference would be "rendered inoperable for its intended purpose" when it is modified for use as prior art, then the reference "teaches away" and should not be used. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984). *See* MPEP § 2143.01(V) ("If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.").

At present, the Office Action has proposed a combination and modification which would render the system of *Allen et al.* inoperable and unsatisfactory for its intended purpose. Namely, the Office Action suggests that incorporating the tilt-sensor and rate-of-change determination of *Levy* will "provide accurate feedback on their current level of activity based at least in part on the determined rate-of-change of the lateral level sensor." Office Action, p. 4. However, the Office Action fails to understand the inoperability of the resulting combination. If one were to combine the tilt-sensor and rate-of-change determination from *Levy* into *Allen et al.*, the activity monitor of *Allen et al.* would only be responsive to a change of orientation in tilt, not to sensing a user's acceleration. Specifically, *Allen et al.* monitors a user's activity level by sensing changes in a user's acceleration by using a piezoelectric transducer device. Col. 2, ll. 60-65. In contrast, *Levy* uses a tilt-sensitive transducer such as a clinometer to "accurately measure the ***lateral tilt*** of the

tipper truck.” Col. 1, l. 66—col. 2, l. 1 (emphasis added). By replacing the piezoelectric transducer device of *Allen et al.* with the tilt-sensor of *Levy*, the *Allen et al.* system becomes inoperable and vice-versa. The activity monitor would then only sense changes in the lateral tilt of the activity monitor and would not monitor user activity by detecting acceleration as taught in *Allen et al.* In effect, the activity monitor of *Allen et al.* would only detect user activity based on lateral tilt. For instance, if a user were rocking in a chair, the modified device would register activity, but if the user were running along a level road, even at a high rate, the modified device would register no activity whatsoever, because the tilt sensor of *Levy* would remain level. This modification clearly renders *Allen et al.* unsatisfactory for its intended purpose, as prohibited by MPEP § 2143.01(V) and *In re Gordon*. As such, Applicant respectfully submits that the proposed combination of *Allen et al.* and *Levy* is inoperable and therefore is improper.

Without waiving its objection to the improper combination of *Allen et al.* and *Levy*, Applicant further addresses the prior art on their merits, in light of Applicant’s pending claims.

**4. With respect to the rejection of claims 1-5, 9-16, 31-35, 50-52, 62-63, 74 and 81-96 under 35 U.S.C. § 103(a) over *Allen et al.* and *Levy*, Applicant offers the following.**

**a. Independent Claims 1, 4, 9, 15, 31, 50, 62-63, 81, 85, and 89**

The Office Action indicates that independent claims 1, 4, 9, 15, 31, 62-63, 81, 85, and 89 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by *Allen et al.* Applicant respectfully traverses this rejection for at least the reason that the combination of *Allen et al.* and *Levy* fails to disclose, teach, or suggest all of the features in the cited claims. Representative of those rejected claims, claim 1 recites:

A switch which comprises:

- a. a tilt-sensitive transducer that produces an output signal in response to a user manipulating said transducer;
- b. a differentiator adapted to receive said output signal and to determine a rate-of-change of said output signal;
- c. means, connected to said differentiator, for performing a first switching function based at least in part on the determined rate-of-change.



Applicant respectfully submits that independent claim 1 patentably defines over *Allen et al.* for at least the reason that *Allen et al.* fails to disclose, teach, or suggest at least “a tilt-sensitive transducer”, “a differentiator adapted to receive said output signal and to determine a rate-of-change of said output signal”, and “means, connected to said differentiator, for performing a first switching function based at least in part on the determined rate-of-change” as recited in claim 1. More specifically, *Allen et al.* teaches providing an audible feedback to a user based on the user’s desired and actual levels of performing an activity. Col. 1, lines 64-67. The invention of *Allen et al.* allows a user to monitor the user’s current and instantaneous activity level with direct and instantaneous audible feedback on a current level of performance. (Col. 2, lines 46-49).

For at least the reasons stated by Applicant in the last response, *Allen et al.* does not disclose a tilt-sensitive transducer. More specifically, *Allen et al.* fails to disclose a tilt-sensitive transducer but rather discloses an “accelerometer.” The *Allen et al.* reference specification is replete with references to sensing “acceleration” but fails to disclose sensing tilt or orientation or producing an output signal responsive thereto. For instance, the very recitation relied on by the examiner, col. 2, lines 60-67, clearly recites the “piezoelectric transducer device acting as a sensor of the user’s **acceleration** . . . . The device senses an **acceleration** induced by the user’s activity. If a single transducer sensor is used, the monitor is most sensitive to a single plane of body motion, i.e., up and down movement.” (Emphasis added). *Allen et al.* does not suggest, much less teach, sensing of tilt or orientation. The reliance on the recitation at col. 7, line 32 through col. 8, line 11, is likewise misplaced. The part identified in the specification is an accelerometer, not a tilt-sensitive transducer. The technical publication describing this part is available online via Morgan Electro Ceramics website at <http://www.morganelectroceramics.com/pdfs/tp245.pdf>. This device produces a second derivative type output, e.g., acceleration, and does not produce a first derivative type output, e.g., tilt or orientation. Further, incorporating the tilt sensor of *Levy* causes *Allen et al.* to be inoperable for its intended purpose, as discussed above.

Moreover, *Allen et al.* fails to disclose, teach, or suggest using a differentiator to determine a rate-of-change, as expressly admitted in the Office Action on page 4. The Office Action erroneously concludes that the analog-to-digital converter and amplifier detector of *Allen et al.*, when combined with the teachings of *Levy*, function in a manner comparable to the differentiator of claim 1. Office Action, pages 3-4. In reality, the analog-to-digital converter and

amplifier detector of *Allen et al.* fail to perform any differentiation at all. Moreover, incorporating the teachings of *Levy* into *Allen et al.* is improper, as discussed above, because *Levy* is non analogous art and because the combination is inoperable.

As described in the application, the present invention teaches a rate-of-change switch which uses a calculus derivative to calculate and determine the rate-of-change. Fig. 11; paras. [0165]-[0167]. The analog-to-digital converter and amplifier detector of *Allen et al.* instead simply convert the analog signal of the piezoelectric transducer to an audible signal. Col. 7, lines 37-40. The Office Action incorrectly asserts this conversion to be differentiation by alleging that “an amplifier/detector (24) connected to an analog/digital converter (22)” is a differentiator. Office Action, page 4. However, this “differentiation” in *Allen et al.* does not determine a rate-of-change of the output signal as claimed above. Although the disclosure of *Allen et al.* speaks of acceleration, the invention of *Allen et al.* does not actually determine a rate-of-change of distance, velocity, or acceleration. Specifically, *Allen et al.* does not suggest or refer in any way to any derivative for determining rate-of-change, as is inherent in a differentiator as claimed by Applicant. As described in the specification, unlike *Allen et al.* the present invention utilizes a first derivative (and in some cases a second derivative) to determine a rate-of-change. Para. [0167]. *Allen et al.* instead simply recognizes “[a] threshold acceleration sufficient to indicate activity performance by the user.” Col. 4, lines 49-51. The *Allen et al.* reference wholly fails to determine or calculate any rate-of-change whatsoever. Moreover, the Office Action explicitly recognizes this point on page 4: “Allen et al. did not explicitly disclose determine a rate-of-change of said output signal.” Instead, the Office Action erroneously applies *Levy* as allegedly teaching this limitation. The Office Action seems to ignore the plain claim language, in light of the specification. Applicant claims “a differentiator adapted to receive said output signal and to determine a rate-of-change of said output signal” as recited in claim 1. That is, the differentiator determines the rate-of-change. However, as *Allen et al.* fails to disclose a differentiator, and as the *Levy* reference cannot be properly combined with *Allen et al.*, neither *Allen et al.* nor *Levy*, alone or in combination, disclose, teach, or suggest “a differentiator adapted to receive said output signal and to determine a rate-of-change of said output signal” as recited in claim 1. For at least these reasons, independent claim 1 patently defines over *Allen et al.*

These same arguments apply to independent claims 4, 9, 15, 31, 62, 63, 76, 81, 85, and 90. For instance, each of these claims also teaches determining a rate-of-change as in

independent claim 1. For at least this reason, independent claims 4, 9, 15, 31, 62, 63, 76, 81, 85, and 90 are allowable.

Additionally, because *Levy* fails to overcome the deficiencies of *Allen et al.*, dependent claims 2-3 and 76 are allowable for at least the reason that these claims depend from and include the elements of allowable independent claim 1. Similarly, dependent claim 5 is allowable for at least the reason that this claim depends from and includes the elements of allowable independent claim 4. Dependent claim 16 is allowable for at least the reason that this claim depends from and includes the elements of allowable independent claim 15. Dependent claims 32-35 are allowable for at least the reason that these claims depend from and include the elements of allowable independent claim 31. Dependent claims 51-52 are allowable for at least the reason that these claims depend from and include the elements of allowable independent claim 50. Dependent claim 74 is allowable for at least the reason that this claim depends from and includes the elements of allowable independent claim 63. Dependent claims 82-84 are allowable for at least the reason that these claims depend from and include the elements of allowable independent claim 81. Dependent claims 86-88 are allowable for at least the reason that these claims depend from and include the elements of allowable independent claim 85. Dependent claims 89-95 are allowable for at least the reason that these claims depend from and include the elements of allowable independent claim 89. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988); *Minnesota Mining and Mfg. Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002).

**5. With respect to the rejection of claim 75 under 35 U.S.C. § 103(a) over *Allen et al.* in view of *Levy* and further in view of *Muller*, Applicant offers the following.**

The Office Action indicates that dependent claim 75 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Allen et al.* in view of *Levy* and further in view of *Muller*. Applicant respectfully traverses this rejection on the grounds that *Allen et al.* fails to disclose, teach, or suggest all of the claimed elements of claim 63, as discussed above. More specifically, dependent claim 75 is allowable for at least the reason that this claim depends from and includes the elements of allowable independent claim 63. Because *Muller* does not overcome the deficiencies of *Allen et al.* and *Levy*, claim 75 is allowable. *In re Fine*, 837 F.2d

1071 (Fed. Cir. 1988); *Minnesota Mining and Mfg. Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002).

**6. With respect to the rejection of claims 36-42, 47, and 76-80 under 35 U.S.C. § 103(a) over *Allen et al.* in view of *Levy* and further in view of *Elwell*, Applicant offers the following.**

a. Independent Claim 76

The Office Action indicates that claim 76 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Allen et al.* in view of *Levy* and further in view of *Elwell*. Applicant respectfully traverses this rejection for at least the reason that *Allen et al.*, *Levy*, or *Elwell*, taken alone or in combination, fail to disclose, teach, or suggest the all of the features in claim 76. Specifically, claim 76 recites:

A method which comprises:

- a. producing an output signal;
- b. determining a first rate-of-change of said output signal;
- c. selectively performing a switching function in response to said output signal and based at least in part on said first rate-of-change exceeding a predetermined rate-of-change threshold;
- d. determining a second rate-of-change of said output signal; and
- e. preventing variations in said output signal from performing said switching function based at least in part on said second rate-of-change not exceeding said predetermined rate-of-change threshold.

Applicant respectfully submits that independent claim 76 patently defines over *Allen et al.* for at least the reason that *Allen et al.* and *Levy* fail to disclose, teach, or suggest at least “determining a first rate-of-change of said output”, “determining a second rate-of-change of said output signal”, and “preventing variations in said output signal from performing said switching function based at least in part on said second rate-of-change not exceeding said predetermined rate-of-change threshold” as recited in claim 76. More specifically, *Allen et al.* teaches providing an audible feedback to a user based on the user’s desired and actual levels of performing an activity. (Col. 1, lines 64-67). The invention of *Allen et al.* allows a user to monitor the user’s current and instantaneous activity level with direct and instantaneous audible feedback on a current level of performance. (Col. 2, lines 46-49). As discussed above, *Levy* cannot overcome the deficiencies of *Allen et al.* as it is non analogous art that, if combined with

*Allen et al.*, would render *Allen et al.* inoperable for its intended purpose. Therefore, *Allen et al.* and *Levy* fail to disclose, teach, or suggest at least “preventing variations in said output signal from performing said switching function based at least in part on said second rate-of-change not exceeding said predetermined rate-of-change threshold” as recited in claim 76.

Furthermore, *Elwell* fails to overcome the deficiencies of *Allen et al.* and *Levy*. *Elwell* teaches using an RC charging circuit and a separate RC discharging circuit to compare rate-of-change. (Abstract). However, *Elwell* fails to disclose, teach, or suggest at least “preventing variations in said output signal from performing said switching function based at least in part on said second rate-of-change not exceeding said predetermined rate-of-change threshold” as recited in claim 76.

For at least this reason, *Allen et al.*, *Levy*, and *Elwell*, taken alone or in combination, fail to disclose, teach, or suggest the all of the features in claim 76.

b. Dependent Claims 36-42, 47, and 77-80

The Office Action indicates that dependent claims 36-42, 47, and 77-80 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Allen et al.* in view of *Levy* and further in view of *Elwell*. Applicant respectfully traverses this rejection on the grounds that *Allen et al.* fails to disclose, teach, or suggest all of the claimed elements. More specifically, dependent claims 36-42, 47, and 77-80 are allowable for at least the reason that these claims depend from and include the elements of allowable independent claim 76. Because *Elwell* does not overcome the deficiencies of *Allen et al.*, claims 36-42, 47, and 77-80 are allowable. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988); *Minnesota Mining and Mfg.Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002).

**7. With respect to the rejection of claims 17, 19, 43-46, and 48-49 as being dependent upon a rejected base claim, Applicant offers the following.**

The Office Action indicates that dependent claims 17, 19, 43-46, and 48-49 stand rejected under 35 U.S.C. §103(a) as allegedly being dependent upon a rejected base claim. Applicant respectfully traverses this rejection on the grounds that the base claims, as described above and relied on by the Office Action, are in condition for allowance.

#### IV. CONCLUSION

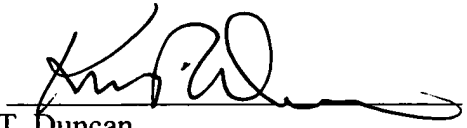
In view of the foregoing amendments and remarks, Applicant respectfully requests that the rejections of claims 1-5, 9-17, 19, 31-52, 62-63, 74-96 under 35 U.S.C. § 103(a) be withdrawn. For a rejection under § 103(a) to be proper, the references must disclose, teach, or suggest all of the claimed features explicitly or inherently. As set forth above, *Allen et al.*, *Levy*, *Muller*, and *Elwell*, taken either alone or in combination, fail to meet the standard for obviousness.

Applicant submits that all pending claims in this application are in condition for allowance. Favorable reconsideration and prompt allowance of the claims are respectfully requested. Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below. In the event any variance exists between the amount enclosed and the Patent Office charges, please charge or credit any difference to the undersigned's Deposit Account No. 50-4682.

Respectfully submitted,

VALENTI HANLEY & ROBINSON PLLC

Date: May 11, 2010

By:   
Kevin T. Duncan  
Registration No. 41,495  
Tel.: 502-568-2100

One Riverfront Plaza  
401 West Main Street, Ste. 1950  
Louisville, Kentucky 40202  
Tel: 502-568-2100  
Fax: 502-568-2101